

CRYSTAL GROWTH

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Abstract

PURPOSE: To realize ideal atomic layer epitaxy, by supplying raw material gases alternately and performing luminous radiation on a surface of a substrate crystal.
CONSTITUTION: At least two kinds of raw material gases are alternately supplied in a vapor epitaxial growth method of compound crystal, and luminous radiation is performed on a surface of a substrate crystal. Then, growth temperature is made to become low, and therefore thermal decomposing reaction of the compound in the raw material gas is suppressed, so that surface photo-chemical reaction becomes a main one. Therefore, atomic layers are made to epitaxially grow digitally one by one on the substrate crystal. Hence, ideal atomic layer epitaxy is realized.